

What Is Claimed Is:

1. A stent comprising:

a tubular body with a wall having a web structure configured to expand from a contracted delivery configuration to an expanded deployed configuration,

the web structure comprising a plurality of interconnected, neighboring web patterns, each web pattern having a plurality of adjoining webs, each adjoining web comprising a central section interposed between first and second lateral sections,

wherein the central section is substantially parallel to a longitudinal axis of the stent when in a contracted delivery configuration, each of the first lateral sections joins the central section at a first angle, each of the second lateral sections joins the central section at a second angle, and adjacent ones of the neighboring web patterns having alternating concavity.

2. The stent of claim 1, wherein each of the three sections of each adjoining web is straight.

3. The stent of claim 1, wherein the first angle comprises a first obtuse angle, and wherein the second angle comprises a second obtuse angle.

4. The stent of claim 1, wherein the first angle is equal to the second angle.

5. The stent of claim 1, wherein each adjoining web has a bowl-like appearance.

6. The stent of claim 1 further comprising a plurality of connection elements configured to interconnect the plurality of web patterns.

7. The stent of claim 6, wherein each of the plurality of connection elements comprises a straight section.

8. The stent of claim 6, wherein each web pattern comprises a plurality of connection sections, the connection elements configured to couple neighboring connection sections together to interconnect the plurality of web patterns.

9. The stent of claim 6, wherein the plurality of connection elements comprise a first plurality of connection elements disposed in a first orientation and a second plurality of connection elements disposed in a second orientation.

10. The stent of claim 9, wherein the first and second plurality of connection elements, respectively, are disposed between neighboring web patterns in an alternating arrangement.

11. The stent of claim 1 further comprising a plurality of transition sections configured to interconnect neighboring web patterns.

12. The stent of claim 11, wherein the transition sections comprise extensions of neighboring adjoining webs.

13. The stent of claim 1, wherein the web structure is fabricated from a superelastic material.

14. The stent of claim 1, wherein the stent is fabricated from a biocompatible or biodegradable material.

15. The stent of claim 1, wherein the tubular body is flexible in the contracted delivery configuration.

16. The stent of claim 1, wherein the web structure is configured to self-expand from the contracted delivery configuration to the expanded deployed configuration.

17. The stent of claim 1, wherein the web structure is configured to expand by application of pressure to an interior surface of the stent from the contracted delivery configuration to the expanded deployed configuration.

18. The stent of claim 1, wherein a third angle is formed where adjoining web patterns are joined, the third angle being acute in the contracted delivery configuration.

19. The stent of claim 18, wherein the third angle increases in magnitude when the web structure deploys from the contracted delivery configuration to the expanded deployed configuration.

20. The stent of claim 18, wherein the third angle approaches a right angle after deployment of the stent.

21. The stent of claim 1, wherein the number of adjoining webs that span a circumference of the stent is selected corresponding to a vessel diameter in which the stent is to be implanted.

22. The stent of claim 12 wherein each transition section has a transition width having a width greater than twice the width of the central section.

23. The stent of claim 1 further comprising a plurality of connection sections configured to adjoin the adjoining webs.

24. The stent of claim 1 further comprising an coating partially covering the tubular body.

25. The stent of claim 24 wherein the coating is configured to retard restenosis.

26. The stent of claim 24, wherein the coating is configured to retard thrombus formation around the stent.

27. The stent of claim 24, wherein the coating is configured to deliver therapeutic agents to the patient's blood stream.

28. The stent of claim 1, wherein a thickness of the wall of the tubular body changes along a length of the tubular body.

29. A method for stenting at a target site within a patient's vessel comprising:

providing a stent comprising a tubular body with a wall having a web structure, the web structure comprising a plurality of interconnected, neighboring web patterns, each web pattern having a plurality of adjoining webs, each adjoining web comprising a central sections interposed between two lateral sections, wherein the central section is substantially parallel to a longitudinal axis of the stent when in a contracted delivery configuration, and adjacent ones of the neighboring web patterns having alternating concavity;

percutaneously delivering the stent to the target site within the patient's vessel in a contracted delivery configuration; and

deploying the stent to an expanded deployed configuration, wherein the stent engages the target site.

30. The method of claim 29, wherein each of the first lateral sections joins the central section at a first angle and each of the second lateral sections joins the central section at a second angle, and expanding the stent comprises increasing a magnitude of the first and second angles.

31. The method of claim 30, wherein increasing the magnitude of the angles increases a radial stiffness of the stent.

32. The method of claim 30, wherein increasing the magnitude of the angles maintains a substantially constant length of the stent during expansion.

33. The method of claim 29 wherein deploying the stent to an expanded deployed configuration comprises using a delivery system to apply a radially-outwardly directed force against an interior surface of the stent.

34. The method of claim 29 wherein deploying the stent to an expanded configuration comprises releasing the stent from a mechanical restraint.

35. The method of claim 29, wherein deploying the stent to an expanded deployed configuration further comprises increasing a third angle disposed between adjoining webs to substantially a right angle.